

ASSIGNMENT 1

Textbook Assignment: "Technical Administration and Supervision." Pages 14-1 through 14-14.
"Field Astronomy and Triangulation." Pages 15-1 through 15-24.

Learning Objective: Identify the duties and responsibilities of the EA supervisor in providing assistance to the management division of a battalion operations department.

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| <p>1-1. Which of the following responsibilities applies to you, a supervisor, in an engineering department?</p> <ol style="list-style-type: none">1. Making progress reports2. Performing PRCP interviews3. Carrying on a comprehensive training program4. Each of the above <p>1-2. The management division of the operations department is also known as the</p> <ol style="list-style-type: none">1. engineering division2. administration division3. quality control division4. operations staff <p>1-3. Labor reports are used to accomplish which of the following purposes?</p> <ol style="list-style-type: none">1. To compare actual performance with the estimated standards2. To determine the effectiveness of labor utilization3. To determine labor expenditures on projects4. Each of the above <p>1-4. Man-days are computed on what time standard?</p> <ol style="list-style-type: none">1. An 8-hour day2. A 12-hour day3. A 10-hour day4. The scheduled battalion workday <p>1-5. Productive labor includes which of the following labor categories?</p> <ol style="list-style-type: none">1. Overhead2. Direct3. Indirect4. Both 2 and 3 above | <p>1-6. Which of the following tasks is considered indirect labor?</p> <ol style="list-style-type: none">1. Preparation of as-built drawings2. Transit time to and from the jobsite3. Concrete testing4. Each of the above <p>1-7. The SITREP is transmitted in what format?</p> <ol style="list-style-type: none">1. NAVGRAM2. Message3. Memorandum4. Marsgram <p>1-8. What reference should you use for the SITREP format?</p> <ol style="list-style-type: none">1. COMSECOND/COMTHIRDNCBINST 3121.12. COMSECOND/COMTHIRDNCBINST 5100.13. COMSECOND/COMTHIRDNCBINST 5200.24. COMSECOND/COMTHIRDNCBINST 6260.4 <hr/> <p>Learning Objective: Identify the duties and responsibilities of an EA supervisor for coordinating and supervising the activities of the engineering division of a battalion operations department.</p> <hr/> <p>1-9. In the absence of an EAC, the EAL assumes which of the following responsibilities?</p> <ol style="list-style-type: none">1. The duties of the engineering chief2. The manager of the radiation safety program3. Both 1 and 2 above4. The duties of the training chief <p>1-10. What is the recommended interval for performing an inventory of the drafting kit?</p> <ol style="list-style-type: none">1. Once a month2. Twice a month3. Every 3 months4. Every 2 weeks |
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- 1-11. What person is normally held accountable for the tool kits?
1. The drafter
 2. The engineering officer
 3. The drafting supervisor
 4. The supply petty officer
- 1-12. According to NAVFAC P-80, the drafting office should have what minimum space per drafter?
1. 75 square feet, including storage
 2. 75 square feet, excluding storage
 3. 90 square feet, including storage
 4. 90 square feet, excluding storage
- 1-13. Whenever possible, the drafting equipment and reproduction equipment should be located in the same room.
1. True
 2. False
- 1-14. What is the purpose of logging out prints?
1. To keep an accurate account of what project is using the most paper
 2. To ensure unnecessary prints are not reproduced
 3. To inform cognizant personnel of changes made to the drawings
 4. All of the above
- 1-15. Which of the following considerations must be addressed first when setting up a reproduction room?
1. Storage
 2. Air conditioning
 3. Ventilation
 4. Lighting
- 1-16. The publications required for the engineering technical library are listed in what reference?
1. NAVFAC P-315
 2. NAVFAC P-437
 3. NAVFAC P-349
 4. TOA
- 1-17. NAVFAC publications and military handbooks are the only publications required for the engineering technical library.
1. True
 2. False
- 1-18. When checking and editing drawings, what standard, if any, establishes the procedures that you should follow?
1. NAVFAC P-272
 2. MIL-HDBK-1006/1
 3. ANSI Y14 series
 4. None
- 1-19. You should consult with the appropriate Seabee ratings when you encounter problems while reviewing drawings.
1. True
 2. False
- 1-20. A newly reported EA should study which of the following publications to be proficient as a drafter?
1. NAVFAC P-437
 2. MIL-HDBK-1006/1
 3. MIL-STD-100E
 4. All of the above
- 1-21. Which of the following supervisory responsibilities should be considered in making work assignments?
1. Awareness of the OCCSTDs for each paygrade
 2. Knowledge of how the task is to be accomplished
 3. Knowledge of each person's capabilities
 4. Both 2 and 3 above
- 1-22. The degree of explanation required for a work assignment depends on the experience of the drafter.
1. True
 2. False
- 1-23. A work request serves which of the following purposes?
1. To account for requested work
 2. To track work progress
 3. To identify personnel shortages
 4. To reflect priorities assigned by shop personnel
- 1-24. Which of the following engineering duties is performed by the field engineering section?
1. Obtaining as-built information
 2. Making field compaction tests
 3. Directing earthwork operations
 4. Reproducing field prints

- 1-25. What is the first concern of a survey party chief when organizing survey crews?
1. The availability of transportation
 2. The job completion deadline
 3. The formulation of a job plan
 4. The capabilities of personnel assigned
- 1-26. Of the following survey parties, which one affords the greater flexibility as to the number of personnel required?
1. Plane table
 2. Stadia
 3. Leveling
 4. Reconnaissance
- 1-27. What type of sheet is used to record reduced field note data?
1. Bench mark
 2. Abstract
 3. Traverse
 4. Base line
- 1-28. What person is responsible for error-free computations in field notes?
1. The party chief
 2. The engineering officer
 3. The supervisor
 4. The note keeper
- 1-29. Which of the following methods helps to ensure that the calculations of the crew are correct?
1. Recheck all calculations
 2. Spot-check calculations
 3. Compute data by two different methods
 4. Observe all calculations being performed
- 1-30. As a survey crew party chief, you must develop which of the following skills for use when checking field notes?
1. Weighing the results for the probability of error
 2. Weighing the results for possible errors
 3. Avoiding mistakes when you are making calculations
 4. Spot-checking the calculations made by your crew members
- 1-31. To increase the motivation of a field crew, you must employ what technique?
1. Offer job rotation for the crew
 2. Reduce competition among the crew
 3. Keep the crew informed of the purpose of the task
 4. Give them more free time to study the job assigned
- 1-32. When is the best time for a supervisor to conduct training for personnel assigned?
1. At the beginning of the workday
 2. At the end of the workday
 3. During designated training periods
 4. Whenever the work load permits
- 1-33. What is the definition of combat intelligence?
1. Knowledge of the enemy, weather, and terrain necessary to plan and conduct tactical operations
 2. Knowledge of enemy troop movements
 3. A battalion operation order
 4. Information about battalion capabilities
- 1-34. The materials testing section provides support for what division in the operations department?
1. Management
 2. Field engineering
 3. Quality control
 4. Design
- 1-35. All work requests for the materials testing section are generated outside of the engineering department.
1. True
 2. False
- 1-36. You are reviewing an in-place density test result. A great difference exists between the results and the expected results. What action should you take?
1. Have the EA that performed the test review the procedures as the test was obviously performed wrong
 2. Rerun the test
 3. Review the procedures and attempt to determine the cause of the discrepancy
 4. Replace the EA assigned to the soils lab

- 1-37. Part of training new personnel should encompass which of the following examples?
1. Have them work with experienced personnel
 2. Explain the forms used locally
 3. Have them practice the difficult tests under supervision
 4. Each of the above

Learning Objective: Identify the systems of time used in field astronomy.

- 1-43. If you are taking star shots in an area that is using daylight saving time, what compensation, if any, must be made?
1. Add 1 hour to your time
 2. Deduct 1 hour from your time
 3. Deduct 1 hour if it is a sun shot
 4. None

Learning Objective: Identify given elements of field astronomy. Identify elements of the astronomical triangle.

- 1-38. When the sun is in exact alignment with a particular meridian, what is the local apparent time?
1. 0600
 2. 1200
 3. 1600
 4. 1800

- 1-44. Which of the following systems use astronomic determinations based on hour angle and declination?

1. Terrestrial
2. Horizon
3. Celestial
4. Lunar

- 1-39. What meridian is used as the center line of each time zone?
1. Meridians that are multiples of $7^{\circ}30'$
 2. Meridians that are multiples of 15°
 3. Longitudes that are multiples of $15^{\circ}30'$
 4. Longitudes that are multiples of $7^{\circ}30'$

- 1-45. The longitude of a point is the angular distance between the meridian at the point and the prime meridian.

1. True
2. False

- 1-46. Projections through the poles comparable to the meridians are known as

1. great circles
2. declinations
3. ascensions
4. hour circles

- 1-40. GMT is located
1. 0°
 2. 15°E
 3. 30°E
 4. 60°W

- 1-47. What is the declination of a celestial body?

1. The angular distance north or south from the celestial meridian
2. The angular distance north or south from the celestial equator
3. The angular distance east or west from the celestial meridian
4. The angular distance east or west from the celestial equator

- 1-41. When the time is 1220 at your location of 47°W , what is the time 44° west of you?
1. 0620
 2. 0920
 3. 1520
 4. 1820

- 1-48. Right ascension is normally expressed in

1. hours
2. minutes
3. degrees
4. miles

- 1-42. If you record the time incorrectly by 2 minutes, what type of plotting error is created?
1. $15'$ in latitude
 2. $15'$ in longitude
 3. $30'$ in latitude
 4. $30'$ in longitude

1-49. The correction for parallax, which must be made for precise computations, accounts for the

1. refraction of the rays of the sun
2. gravitational differential created by the direction of the plumb line
3. displacement of the horizon plane
4. elliptical variation of the surface of the earth

1-50. The side of the astronomical triangle between the pole and the star is known as the

1. colatitude
2. coaltitude
3. parallactic
4. codeclination

Learning Objective: Determine the celestial coordinate when given meridian altitude observation.

IN ANSWERING QUESTIONS 1-51 AND 1-52, REFER TO TABLES 15-1 AND 15-2 IN YOUR TEXTBOOK.

1-51. What was the GHA of the sun at zone time 09^h22^m14^s on 16 May 1986 in longitude 79°37'12"W?

1. 293°51.9'
2. 97°47.6'
3. 94°51.2'
4. 36°28.7'

1-52. What was the declination of the sun at the time and place in question 1-51?

1. S 8°59.2'
2. N 19°07.1'
3. N 19°07.9'
4. N 19°08.1'

1-53. What is the polar distance, measured from the elevated north pole of the celestial body whose declination is 20°S?

1. 20°
2. 70°
3. 110°
4. 200°

1-54. In a time diagram, the observer is located at what point?

1. Over the north celestial pole
2. On the celestial equator
3. On the Greenwich meridian
4. Over the south celestial pole

1-55. The GHA of a star is measured in what manner?

1. Counterclockwise from Greenwich to the star only
2. Clockwise from Greenwich to the star only
3. The same direction from Greenwich to the star
4. The same direction from the star to Greenwich

1-56. LHA is always measured from the local meridian in what direction?

1. Northward
2. Southward
3. Eastward
4. Westward

1-57. What method is used to obtain the LHA when the GHA and longitude are known?

1. Always add the longitude to the GHA
2. Always subtract the longitude from the GHA
3. Subtract an eastern longitude from the GHA and add a western longitude to the GHA
4. Add an eastern longitude to the GHA and subtract a western longitude from the GHA

1-58. What is the polar distance of a heavenly body?

1. The declination at that instant
2. 90° minus the declination
3. 180° minus the declination
4. 270° minus the declination

1-59. The difference between the surface-plane altitude value and the center-of-the-earth-plane altitude value is what type of correction?

1. Semidiameter
2. Refraction
3. Parallax
4. Upper limb

Learning Objective: Identify methods, procedures, and calculations required to determine latitude and azimuth.

- 1-60. To determine the true azimuth of a line, you must know which of the following data?
1. Longitude of the point from which the observation is made
 2. Latitude of the point from which the observation is made
 3. The polar distance
 4. The meridian angle
- 1-61. An object is observed in the direction of the equator from the zenith of the observer's position. What is the latitude of the observer's position if the object's declination is $S15^{\circ}10'$ and the corrected meridian altitude is $62^{\circ}07'$?
1. $17^{\circ}32'$
 2. $28^{\circ}42'$
 3. $36^{\circ}22'$
 4. $43^{\circ}03'$
- 1-62. You are determining latitude by the altitude of the sun at noon. If the exact meridian is unknown, the vertical angle of the position of the sun is recorded when the sun
1. has crossed the line of sight
 2. begins to cross the line of sight
 3. is on a known meridian
 4. reaches its zenith
- 1-63. If the transit used in determining latitude by altitude of the sun at noon is not equipped with solar attachment, what action should you take?
1. Use No.10 welder's glasses for sighting
 2. Set the vertical cross hair tangent to the left edge of the sun's disk
 3. Set the horizontal cross hair tangent to the lower edge of the sun's disk
 4. Set the horizontal cross hair tangent to the upper edge of the sun's disk
- 1-64. What two methods are commonly used to determine an azimuth by sun observation?
1. Altitude and latitude
 2. Altitude and longitude
 3. Hour angle and longitude
 4. Hour angle and altitude
- 1-65. Which of the following methods for determining an azimuth by sun observation is the fastest and most accurate?
1. Hour angle
 2. Altitude
 3. Latitude
 4. Longitude
- 1-66. In what direction is the azimuth of the sun measured?
1. Clockwise from the meridian
 2. Clockwise from the north
 3. Counterclockwise from the meridian
 4. Counterclockwise from the north
- 1-67. When you obtain the correct time from radio station WWV, what is the maximum correction you will make by counting the double ticks after the minute tone?
1. 1.0 second
 2. 0.9 second
 3. 0.7 second
 4. 0.1 second
- 1-68. For a morning observation in the Western Hemisphere and an afternoon observation in the Eastern Hemisphere, Greenwich and local dates are NOT the same.
1. True
 2. False
- 1-69. When you obtain a negative declination for the sun, what does this indicate?
1. An error in your calculations
 2. The sun is east of the 0° meridian
 3. The sun is north of the equator
 4. The sun is south of the equator
- 1-70. What alternate method can be used to observe the sun with a telescope that does not have a special eyepiece or a lens filter?
1. Project the image onto a black piece of paper 1 foot behind the eyepiece
 2. Project the image onto a black piece of paper 6 inches behind the eyepiece
 3. Project the image onto a white piece of paper 1 foot behind the eyepiece
 4. Project the image onto a white piece of paper 6 inches behind the eyepiece

1-71. By computing an azimuth for each sighting and averaging the azimuths, you eliminate what type of error?

1. Parallax
2. Instrument
3. Systematic
4. Human

1-73. What is the azimuth of the line AB?

1. $17^{\circ}58'18.4''$
2. $77^{\circ}56'13.7''$
3. $103^{\circ}04'53.7''$
4. $167^{\circ}56'35.2''$

1-74. The Doppler positioning system works on what basis?

1. Counting radio waves
2. Constant changing radio frequency
3. Counting light waves
4. Measuring time intervals between beams of light

1-75. To determine a location with the GPS, you must know which of the following data?

1. Your position at the time of the reading
2. The satellites location at the time of observation
3. The distance from your position to the satellite
4. Each of the above

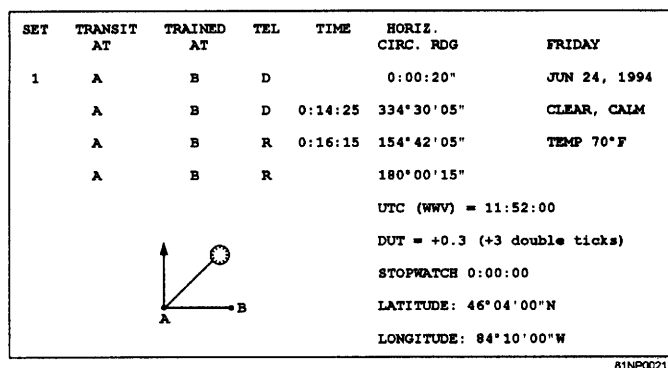


Figure 1A

IN ANSWERING QUESTIONS 1-72 AND 1-73, REFER TO FIGURE 1A.

1-72. What is the computed declination of the sun from the point of observation?

1. $25^{\circ}24'35.5''$
2. $23^{\circ}25'13.7''$
3. $23^{\circ}25'15.7''$
4. $23^{\circ}25'51.7''$